CLAIMS

I/we claim:

1. An apparatus for at least one of manufacture, purification, handling and storage of a subject ethylenically unsaturated monomer, the apparatus comprising an inlet for an oxygen-containing gas, and at least a portion of the apparatus in contact with the monomer comprising a metal containing sufficient copper to inhibit, in the presence of the oxygen-containing gas, polymerization of the monomer within the apparatus.

2. The apparatus of Claim 1, wherein the metal comprises at least about 10% copper.

3. The apparatus of Claim 2, wherein the metal is an alloy comprising about 25% to about 75% copper.

4. The apparatus of Claim 3, wherein the alloy contains about 30% to about 50% copper.

5. The apparatus of Claim 2, wherein the metal comprises copper and nickel.

6. The apparatus of Claim 2, wherein the metal comprises copper and zinc.

7. The apparatus of Claim 2, wherein the metal comprises copper and tin.

8. The apparatus of Claim 1 wherein the apparatus is selected from the group consisting of distillation equipment, a distillation internal component, flame arrestor equipment, extraction tower equipment, absorption equipment, adsorption equipment, heat exchange equipment, piping, a fitting, valving, a pump and a container.

9. The apparatus of Claim 1, wherein the apparatus is distillation equipment and the portion of the apparatus is packing.

10. The apparatus of Claim 1, wherein the apparatus is a distillation column.

11. The apparatus of Claim 10, wherein the inlet for the oxygen-containing gas is at a lower portion of the distillation column.

12. The apparatus of Claim 1, wherein the apparatus is a distillation column and the portion comprises trays for the distillation column.

13. The apparatus of Claim 1, wherein the inlet for the oxygen-containing gas is at a lower portion of the apparatus.

14. The apparatus of Claim 1, wherein the oxygen-containing gas is air.

15. The apparatus of Claim 1, wherein the oxygen-containing gas contains at least about 5 volume % oxygen.

16. A method for inhibiting polymerization during at least one of manufacture, purification, handling and storage of a subject ethylenically unsaturated monomer, the method comprising the steps of:

introducing the monomer into apparatus for at least one of the manufacture, purification, handling and storage of the monomer, at least a portion of the apparatus in contact with the monomer comprising a metal containing sufficient copper to inhibit, in the presence of a gas containing oxygen, polymerization of the monomer within the apparatus; and

providing a gas containing oxygen in the interior of the apparatus containing the monomer;

thereby inhibiting polymerization of the monomer in the apparatus.

17. The method of Claim 16, wherein the ethylenically unsaturated monomer is selected from the group consisting of acrylic acid, an alpha alkyl acrylic acid, an alpha alkyl acrylic ester, a beta alkyl acrylic acid, a beta alkyl acrylic ester, methacrylic acid, an ester of acrylic acid other than methyl acrylate and 2-ethylhexyl acrylate, an ester of methacrylic acid, vinyl acetate, a vinyl ester, a polyunsaturated carboxylic acid, a polyunsaturated ester, maleic acid, a maleic ester, maleic anhydride, and acetoxystyrene.

18. The method of Claim 17, wherein the alkyl group is a straight chain or branched alkyl group having 1 to 8 carbon atoms.

19. The method of Claim 18, wherein the alkyl group is a straight chain or branched alkyl group having 1 to 4 carbon atoms.

20. The method of Claim 16 wherein the ethylenically unsaturated monomer is acrylic acid.

21. The method of Claim 16 wherein the ethylenically unsaturated monomer is ethyl acrylate.

22. The method of Claim 16 wherein the ethylenically unsaturated monomer is butyl acrylate.

23. The method of Claim 16 wherein the metal comprises at least about 10% copper.

24. The method of Claim 23, wherein the metal is an alloy comprising about 25% to about 75% copper.

25. The method of Claim 24, wherein the alloy contains about 30% to about 50% copper.

26. The method of Claim 23, wherein the metal comprises copper and nickel.

27. The method of Claim 23, wherein the metal comprises copper and zinc.

28. The method of Claim **23**, wherein the metal comprises copper and tin.

29. The method of Claim **16** wherein the apparatus is selected from the group consisting of distillation equipment, a distillation internal component, flame arrestor equipment, extraction tower equipment, absorption equipment, adsorption equipment, heat exchange equipment, piping, a fitting, valving, a pump and a container.

30. The method of Claim **16**, wherein the apparatus is distillation equipment and the portion of the apparatus is packing.

31. The method of Claim **16**, wherein the apparatus is a distillation column.

32. The method of Claim **31**, wherein the oxygen-containing gas is provided through an inlet for the oxygen-containing gas at a lower portion of the distillation column.

33. The method of Claim **16**, wherein the apparatus is a distillation column and the portion comprises trays for the distillation column.

34. The method of Claim **16**, wherein the oxygen-containing gas is provided through an inlet for the oxygen-containing gas at a lower portion of the apparatus.

35. The method of Claim **16**, wherein the oxygen-containing gas is air.

36. The method of Claim **16**, wherein the oxygen-containing gas contains at least about 5 volume % oxygen.